Procedure for Cleaning and Sanitizing Automatic Ice Making Machines

Introduction:

A boil water order is a notification issued by a public water system, the local environmental health agency, or the State Department of Health Services in accordance with state regulations advising people who are served by the water system that the water may be contaminated with harmful bacteria or other pathogenic microorganisms such as *Hepatitis A, Giardia* and *Cryptosporidium*. A boil water order is often triggered by floods, power failure, equipment failure, breakage of distribution pipes, fire, sewage spills, earthquakes, etc.

When a boil water order is issued or when a private well from which water for making ice is extracted has been flooded, you must assume that your ice making machine has been contaminated. Ice making machine must be emptied, cleaned, and sanitized before returning the machine to production.

This document details the cleaning and sanitizing procedures for the following types of automatic ice-making machines:

- Commercial ice making machines with removal ice contact surfaces
- Commercial ice making machines with non-removable ice contact surfaces
- Residential ice making machines

I. If your ice-making machine has been contaminated by floodwaters or you are informed that a boil water order has been issued, you must:

- Turn electrical power off, or disconnect the machine from electrical power.
- Remove and discard any stored ice.
- Turn the water supply off.
- Drain water from the machine.

II. Only after confirming that the boil water order has been lifted or after confirmation that your well has been treated and verified to meet drinking water standards, should you initiate the cleaning and sanitation procedure of Section III, IV, or V below.

- If the ice machine is connected to a public water supply:

  Call your public water system, the local environmental health agency, or the local emergency operations office to confirm whether the flood has been brought under control or whether the boil water order has been lifted. Their phone numbers can be obtained from the local telephone book.

- If the ice machine uses water from a private well:

The well must be disinfected prior to initiating the cleaning and sanitation of your ice making machine. Contact your local environmental health agency for information on well disinfection. The agency's phone number can be located in the local telephone book.

III. Cleaning and sanitizing procedure for a commercial ice-making machine with removable ice contact surfaces

1. If available, follow the manufacturer's recommended cleaning and sanitizing procedure, or

2. Turn water supply on, turn electrical power on, drain enough water to thoroughly flush the incoming water line (a 20 to 30 second run should be suffice). Then, run the machine through 2 or 3 freezing cycles. This should insure that water entering the unit is safe. Any ice made during this cleaning step must be discarded. Option: If the water supply line to the machine can be drained and flushed by disconnecting it or bypassing the machine, the freezing step may be skipped.

3. Turn the water supply off.

4. Disconnect the unit from electrical power (recommended).

5. Drain water and discard any ice inside the machine.

6. Remove all ice-contact parts of the machine and,

    - Wash in hot, soapy water,
    - Rinse in clean water,
    - Place the machine parts in a solution of one ounce of unscented household chlorine bleach (generally contains about 5.25% sodium hypochlorite) per three gallons of water and leave in the solution for at least two minutes.

7. Reassemble the unit and re-start machine.

8. It is strongly suggested that ice samples be tested for total coliforms (follow the sampling instructions from the laboratory) prior to resuming operation. If the test results show that the ice contains coliforms ("presence" if the presence/absence test method is used) or more than 2.2 most probable numbers/100 mL (if the enumeration method is used), you must discard all ice made and repeat the step 2 through 7 above.

IV. Cleaning and sanitizing procedure for a commercial ice-making machine with non-removable ice contact surfaces

Note: In ice making machines from which ice contact surfaces are not readily removable, the tubing, pipe, fittings and valves are required to be arranged so cleaning and sanitizing solutions can be circulated throughout the fixed system. (See NSF International, NSF/ANSI Standard 12, Automatic ice making equipment, Section 5)

1. If available, follow the manufacturer's recommended cleaning and sanitizing procedure, or

2. Turn water supply on, turn electrical power on, drain enough water to thoroughly flush the incoming water line (a 20 to 30 second run should be suffice). Then, run the machine through 2 or 3 freezing cycles. This should insure that water entering the unit is safe. Any ice made during this cleaning step must be discarded. Option: If the water supply line to the machine can be drained and flushed by disconnecting it or bypassing the machine, the freezing step may be skipped.

3. Turn the water supply off.

4. Drain water and discard any ice inside the machine.

5. Circulate a cleaning solution of warm soapy water for two minutes; drain system.

6. Circulate clean water for two minutes; drain system.

7. Circulate a sanitizing solution containing one ounce of unscented household chlorine bleach (generally contains about 5.25% sodium hypochlorite) per three gallons of water. Ensure to circulate the solution for at least two minutes.

8. Drain the system.

9. Wash, rinse, and sanitize the ice storage bin (refer to Section III, Item 6 above)

10. Return the drain valves to their normal operating positions and restart system.

11. It is strongly suggested that ice samples be tested for total coliforms (follow the sampling instructions from the laboratory) prior to resuming operation. If the test results show that the ice contains coliforms ("presence" if the presence/absence test method is used) or more than 2.2 most probable numbers/100 mL (if the enumeration method is used), you must discard all ice made and repeat the step 2 through 10 above.

V. Cleaning and sanitizing procedure for a residential ice-making machine:
Determine if the icemaker is removable.

<u>If removable:</u>

1. If available, follow the manufacturer's recommended cleaning and sanitizing procedure, or

2. Run the icemaker through 2 to 3 freezing cycles or flush the water supply line (see Procedure III, Item 2). (Note: A longer flushing time should be used for refrigerators with a built-in water dispenser to ensure that the water storage tank is completely flushed.)

3. Turn the water supply off.

5. Disconnect the unit from electrical power (recommended).

6. Remove the ice storage bin and icemaker unit, and:

    - Wash in hot, soapy water,
    - Rinse in clean water,
    - Place the machine parts in a solution of one ounce of unscented household chlorine bleach (generally contains 5.25% sodium hypochlorite) per three gallons of water and leave for at least two minutes.

7. Reassemble the unit and return the icemaker to service.

<u>If not removable:</u>

1. If available, follow the manufacturer's recommended cleaning and sanitizing procedure, or

2. Run the icemaker through 2 to 3 freezing cycles or flush the water supply line (see Procedure III, Item 2). (Note: A longer flushing time should be used for refrigerators with a built-in water dispenser to ensure that the water storage tank is completely flushed.)

3. Discard the ice and return the ice bin to freezer

4. Using a spray bottle, liberally spray the icemaker with a sanitizing solution prepared by mixing one ounce of unscented household chlorine bleach with three gallons of water. Allow the sanitizing solution to air dry. Place the icemaker back into operation and produce 2 to 3 batches of ice.

5. Remove the ice storage bin, discard the ice and:

    - Wash in hot, soapy water,
    - Rinse in clean water,
    - Place the storage bin in a solution of one ounce of unscented household chlorine bleach (generally contains 5.25% sodium hypochlorite) per three gallons of water and allow to sit in the solution for at least two minutes.

6. Return the ice storage bin to the icemaker and put the ice machine back into service.

VI. For additional Information or assistance regarding the procedures, please contact the following:

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